

Splendid Potentialities of Smoky Valley

That the great deposits of rock waste underlying the deserts of Nevada constitute huge underground reservoirs in which are hidden large potential supplies of irrigation water is stated in a preliminary report by O. E. Meiner, of the United States geological survey, on Big Smoky valley—a typical desert valley of the Great Basin.

The demand for farm homes is so great, the report states, that strenuous efforts will be made to utilize by irrigation every existing water supply, and the news of a single flowing well or the skillful advertisement of a promoter may at any time start a stream of homeseekers, ignorant of the actual conditions and difficulties, into almost any of the desert valleys of the west. It is very desirable that the possibilities of these valleys should be thoroughly investigated before they are invaded by homeseekers, for the ordinary settler is helpless when he confronts the unfamiliar and inherently difficult problems of irrigation with ground water.

As the ground water is hidden beneath the surface there is necessarily much uncertainty as to its occurrence, and therefore corresponding caution should be observed in regard to ground-water projects. Much can be determined as to the ground waters of desert valleys, however, even where no wells have been sunk, provided the proper observations are made and the proper criteria applied. It is generally possible to ascertain definitely where the ground water is near the surface, to outline the shallow-water areas, and to make an intelligent forecast of the depth of water in other parts of the valley. If sufficient observations are made it is generally possible to form a rough estimate of the quantity of water that is annually available and to predict to some extent the capacity of wells, the quality of the water, and the cost of its recovery. To begin to develop the ground-water supply of a valley without first investigating its ground-water conditions is as unwise as it would be to start to build a railroad without first having the route surveyed, and the financial results are likely to be no less disastrous.

Even where a satisfactory supply of ground water is assured irrigation may be impracticable because of the high cost of recovering the water or the unfavorable climate, soil, or market conditions. The problem of cost

must be attacked from two principal directions: (1) Means must be devised for recovering the water at the least possible expense, and (2) crops must be found, methods of irrigation and cultivation devised, and markets developed which will result in the largest possible returns from each unit of water used. In many cases different crops and different methods of irrigation and cultivation will be required with ground-water than with surface-water supplies, and for this reason the ground-water investigations of the geological survey should be supplemented by correlative agricultural investigations by the experiment stations.

Conditions in Big Smoky Valley.
The maps accompanying the report show that Big Smoky valley, which is situated in the south-central part of the state, contains two areas of 30,000 and 100,000 acres, respectively, in which the water table is within ten feet of the surface and in which water from the underground reservoir is discharged into the atmosphere by evaporation from soil and plants. It is estimated that in the larger of these areas the discharge of ground water averages between 50,000 and 100,000 acre-feet a year. The maps also show that the valley contains about 110,000 acres in which the depth to the water table is between 10 and 50 feet. Within the shallow-water areas the soil is generally alkaline, but it is estimated that there are about 65,000 acres of good soil in which the depth to water is less than 50 feet.

Pronounced differences were discovered in the water-bearing capacities, water levels, artesian prospects, quality of water, and feasibility of irrigation in different parts of the valley, all of which are briefly described in the preliminary report. There is also a discussion of the methods of drilling best adapted to the various conditions.

Conclusions as to Irrigation

The conclusions as to irrigation with ground waters are in part as follows:

Several tens of thousands of acre-feet of ground water is probably annually available for irrigation in Big Smoky valley. The water is in general of satisfactory quality for irrigation, nearly all of the poor water being in the southwestern part of the lower valley, where there is practically no prospect for irrigation. A small part of the ground-water supply can be recovered by means of flowing wells, but

full use of the supply can be obtained only by pumping. In the areas in which the depth to the water table is less than 50 feet there is enough good soil to utilize all the ground-water supply.

Developments believed to be practicable at present are (1) the sinking of flowing wells of moderate depth in the restricted areas where fairly copious flows can be obtained and the soil is not irreclaimably alkaline, and (2) the sinking of non-flowing wells and the installation of pumping plants for raising high-priced crops or for raising ordinary crops in localities where the conditions are exceptionally favorable or where the well water can be used to supplement surface-water supplies. The raising of high-priced crops is practicable to only a small extent, but it is believed that vegetables and small fruits could be profitably grown in the vicinity of Millers to supply Tonopah, Goldfield, and other local markets. The principal favorable conditions that are necessary in order to make pumping profitable for raising ordinary crops are soil that is not injuriously alkaline, sandy, or gravelly; small depths to the water table (not much more than ten feet); and water-bearing beds at moderate depths that will yield freely.

Ground-water developments along some of the lines indicated could well be made by the ranchers now in the valley, who could afford to take some chances and who could use the well water to supplement their fluctuating surface-water supplies. A small number of new settlers could probably make a livelihood by irrigating with ground water in Big Smoky valley but existing conditions do not warrant the influx of a large number of settlers nor of anyone without means to sink wells and make other necessary improvements. Ill-advised immigration will inevitably lead to disappointment and suffering.

The Big Smoky valley report, which is issued as Water-Supply Paper 375-D, can be obtained by applying to the Director of the United States Geological Survey, Washington, D. C.

TEMPERATURE REPORT

Highest temperature yesterday, 58; a year ago, 69.
Lowest temperature last night, 40; a year ago, 47.

ASSOCIATE JUSTICE HAS COAT UNDER ARM

HON. SAMUEL FOX LEAVES TO VISIT FAMILY AND ALSO TO SEE STELLA

Hon. Samuel Fox, associate justice of the fifth judicial district court, successor to "Blumie," who lost out by overstaying his leave of absence at the exposition, and to T. M. Lynch, who couldn't hold down two jobs at once when he entered the sheriff's office—departed this morning to visit his wife and children in San Francisco and to witness the exposition for the next month. Justice Fox did not wear a coat, even though the morning was frosty, but carried one under his arm by way of compromise. The chief justice and other distinguished officials were at the depot to bid "Foxy" farewell. It is a well known fact that the associate justice abhors publicity or any expression in verbal or printed language that reflects upon his dignity, hence the brevity of this notice and the stilted verbiage that is used, all of which is expected to be pleasing to his eyes when he peruses the Bonanza which will be sent to him this evening.

Take a tip from the squirrel and prepare for winter.—Wood-Sullivan Hardware Co.—Adv.8916.

1915 NEVADA ANNUAL AT FALLON 1915

STATE FAIR

SEPT. 20TH TO 25TH, INCLUSIVE

\$5000 in Premiums on all Classes of Exhibits \$5000

\$2500 in Purses for Running and Harness Racing \$2500

THE GREAT ALFALFA PALACE

One of the novel features will be the Alfalfa Palace, 60 feet square, to house part of the Exhibits, in addition to the Large Pavilion.

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ALL INDUSTRIES OF OUR STATE will be fully represented and it is worth your while to come and ascertain what the "Other Fellow" is doing.

SPLENDID RACING EVENTS

have been arranged by the committee in charge of this feature of the fair and the track has been lengthened and improved so that a full week's racing events will be pulled off on the Fallon track.

THE LIVE STOCK EXHIBIT

Ample sheds, corrals and pens will be provided for the accommodation of all Livestock Exhibits.

W. H. MOFFAT, President

C. L. NOBLE, Acting Secretary

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C. L. NOBLE, Acting Secretary

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ASSESSMENT NOTICE NO. 4 CASH BOY CONSOLIDATED MINING COMPANY

Location of principal place of business, Carson City, Nevada. Location of mine and works, Tonopah, Nye County, Nevada.

Notice is hereby given that at a meeting of the Board of Directors, held on the 26th day of August, 1915, an assessment of one cent per share was levied upon the capital stock of the corporation, payable immediately, in United States gold coin, to the Secretary, at the branch office of the company, Tonopah, Nevada.

Any stock upon which this assessment shall remain unpaid on the 25th day of September, 1915, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on Saturday, October 30th, 1915, to pay the delinquent assessment, together with the cost of advertising and expenses of sale.

By order of Board of Directors.

E. H. MEAD, Secretary.

Tonopah, Nevada. A26-828

STOCKHOLDERS' MEETING

Notice is hereby given that in pursuance to call, in accordance with the by-laws of the company, the undersigned, secretary pro tem, hereby gives notice that the annual meeting of the stockholders of the Nevada Telephone-Telegraph Company will be held at the office of the company in Tonopah, Nevada, on the 20th day of September, 1915, at the hour of 3:30 o'clock p. m., for the purpose of electing a board of directors of said company to hold office until the next annual meeting and until their successors are elected and qualified and for the transacting of such other business as may properly come before said meeting.

E. G. WATERHOUSE, Vice President.

J. CLARENCE KIND, Sec'y pro tem. (Seal)

Tonopah, Nev., Sept. 4, 1915. Adv.8410

ANNUAL MEETING

Notice is hereby given that the annual meeting of the stockholders of the Bullfrog Goldfield Railroad company will be held at the office of the company in Goldfield, Nevada, on Wednesday, October 6th, 1915, at 10 o'clock a. m., for the purpose of electing directors and transacting such other business as may regularly come before the meeting.

Dated September 4, 1915.

W. H. COMSTOCK, Secretary Bullfrog Goldfield Railroad Co. Adv.81020.

MISS HANNA BAHOR WEDS HENRY KOOCHER

MARRIAGE TAKES PLACE IN RENO, WHENCE THEY WILL GO TO THE EXPOSITION

Miss Hanna Bahor of Tonopah left this morning for Reno where she will be married to Henry Koocher of Goldfield. From Reno they will go to the fair at San Francisco and Miss Bahor, a cousin of the bride-to-be, will accompany them to the fair. They will make their future home in Goldfield after their honeymoon.

Wood-Sullivan Hardware Co. runs a tin shop, repair and set up stores.—Adv.8916.

Opens Assay Office

R. B. Kidd, the pioneer assayer of Tonopah, wishes to inform his old patrons and the public, that he has opened a custom assay office at the office of the Tonopah Midway Mining company; all work will be guaranteed; and he will make controls a specialty. Phone 792.

DAILY STAGE

...FOR... GOLDFIELD

Leave Mizpah Hotel 3:30 P. M.

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